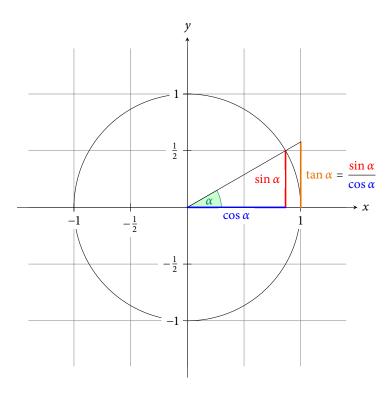
## 1 A TRIGONOMETRY EXAMPLE



The angle  $\alpha$  is 30° in the example ( $\pi/6$  in radians). The sine of  $\alpha$ , which is the height of the red line, is

$$\sin \alpha = \frac{1}{2}$$
.

By the Theorem of Pythagoras we have  $\cos^2 \alpha + \sin^2 \alpha = 1$ . Thus the length of the blue line, which is the cosine of  $\alpha$ , must be

$$\cos\alpha=\sqrt{1-\frac{1}{4}}=\frac{1}{2}\sqrt{3}.$$

This shows that  $\tan \alpha$ , which is the height of the orange line, is

$$\tan\alpha = \frac{\sin\alpha}{\cos\alpha} = \frac{1}{\sqrt{3}}.$$

## 2 PETRI-NETS





